

# ECLIPSE

**AVN**  
AUDIO VISUAL NAVIGATION



## AVN5495

ESN E5 6.5" Wide TFT Touch-Panel Display CD/DVD/MS  
Multi-Source Receiver with HDD Navigation





# AVN — the all-in-one concept.

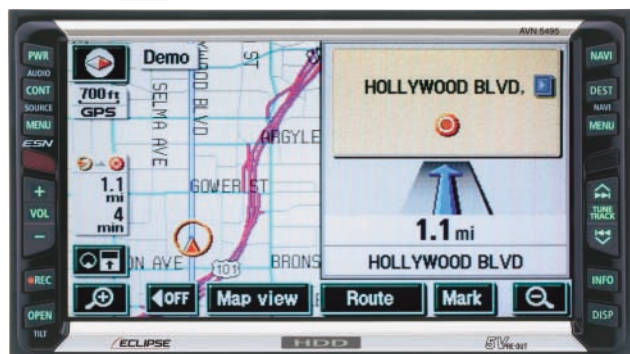
AVN is a creative solution that fulfills the requirements for high-performance in-car entertainment for audio and video as well as advanced navigation. All of this is contained in a stylish and sophisticated double-DIN configuration that graces any car interior, looking as if it came as an option with the car. With the new hard disk-based AVN5495 and DVD-based AVN5435 units, ECLIPSE's commitment to enhancing the total driving experience is more evident than ever.





AVN is the innovative ECLIPSE concept that integrates audio, visual and navigation into a clean, stylish design that graces any car interior.

5V PRE-OUT SRS



ESN Mp3 VIDEO DVD DD DOLBY DIGITAL MAGICGATE gracenote

## AVN5495

ESN E5 6.5" Wide TFT Touch-Panel Display CD/DVD/MS Multi-Source Receiver with HDD Navigation

- CD, CD-R/RW, DVD-R/RW, MP3 and DVD-Video
- 6.5" TFT Display with touch control
- 30 GB HDD
- Circle Surround II
- 3,000 track Music Juke
- All digital circuitry with advanced 24-bit  $\Delta\Sigma$  D/A converter
- High-performance DSP:
  - 5-mode soundfield control
  - 9-band EQ
  - Listening position selector
- 5V preamp output with low 55 $\Omega$  impedance
- FM/AM tuner
- CD Changer-ready (2 units)
- Memory Stick-ready
- Rear view camera-ready
- Video output for rear monitor
- E-LAN data link system
- MS ESN security

5V PRE-OUT

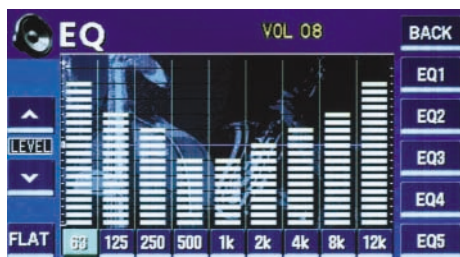


ESN Mp3 VIDEO DVD DD DOLBY DIGITAL HD Radio SIRSUS

## AVN5435

ESN E5 6.5" Wide TFT Touch-Panel Display CD/DVD Multi-Source Receiver with DVD Navigation

- CD, CD-R/RW, DVD-R/RW, MP3 and DVD-Video
- 6.5" TFT Display with touch control
- All digital circuitry with advanced 24-bit  $\Delta\Sigma$  D/A converter
- High-performance DSP:
  - 5-mode soundfield control
  - 9-band EQ
  - Listening position selector
- 5V preamp output with low 55 $\Omega$  impedance
- FM/AM tuner
- HD radio-ready
- SIRSUS Satellite Radio-ready
- CD Changer-ready (2 units)
- Rear view camera-ready
- Video output for rear monitor
- E-LAN data link system
- ESN security



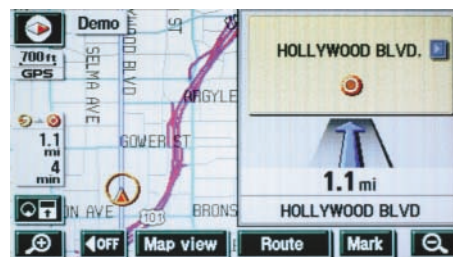
## Audio

AVN units from ECLIPSE handle all audio program material from DVDs and CDs including CD-R/RWs and MP3 files. Along with superb playback, these fully digital units offer versatile digital signal processing and all the other audio features people have come to expect from ECLIPSE's audio-dedicated head units.



## Visual

represents the video capabilities of AVN units. The AVN head units provide faultless DVD-Video as well as DVD-R/RW playback, offering all the pleasure of movies and concerts right in-car. Rear seat passengers can be watching a movie on a rear monitor.



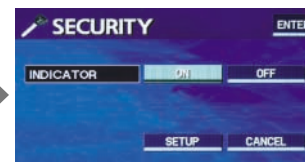
## Navigation

naturally is for navigation. AVN models, both HDD-based and DVD-based, offer features that are extraordinary, from advanced search modes that accurately guide the driver to any destination easily and smoothly as well as offering valuable assistance along the way.

ESN

ECLIPSE's proven theft-deterrent measure works with a user-designated CD or a Memory Stick, depending on the AVN model, to control system activation. The selected media can be set to be a key device that the system must recognize

before it will activate. Without the key device, the system remains locked and will not operate. When the vehicle's engine is off, an indicator will continually flash. The AVN5495 uses a Memory Stick and the AVN5435 uses a CD.

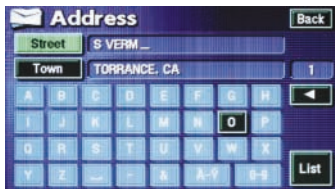


# Searching made simple

Rapid, comprehensive search functions combine with an intuitive touch-control display to make using AVN remarkably easy.

## Address search

Simply input the street name and street number.



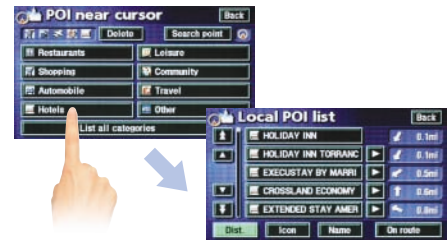
## Points of Interest (POI)

By inputting the name of a POI destination such as a mall, restaurant or any other type of location, the AVN instantly checks the database and matches it if it can be located. Once located, it will display more information on that particular location in the database if desired.



## POI near (AVN5495 only)

Conveniently calls up useful information regarding points of interest such as restaurants and lodging in the vicinity of the car's current location.



Distances to locations such as hotels, restaurants and other POIs from your current position are displayed.

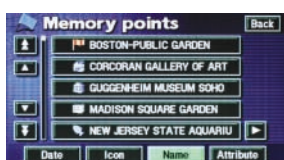
## Define Search Area

Start by selecting the button that corresponds to the area that AVN's navigation features and functions should cover.



## Map Search

Simply use your finger to drag the cursor to the location you want to go to.

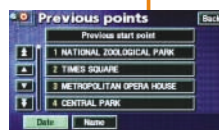


## Memory search

Allows selecting a destination from 100 preset locations. Sound tags can be assigned to locations, and even with directivity for an auditory heads up.

## Previous

Allows instantly choosing from the 20 last-visited locations.

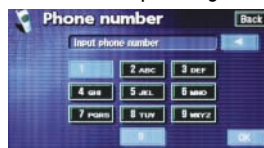


## Home search

Shows the way back home (pre-registered) from wherever the vehicle may be.

## Telephone search (AVN5495 only)

Just by inputting an area code plus telephone number, the AVN5495 will initiate a search for the address corresponding to the number in the navigation database.

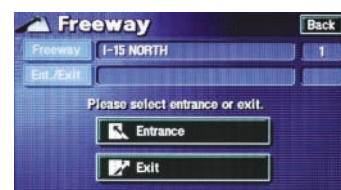


## Intersection search

Input the 2 cross streets one by one.

## Freeway search

Just input the freeway name and desired entrance/exit for full guidance.



## Coordinates

input the longitude and latitude coordinates.

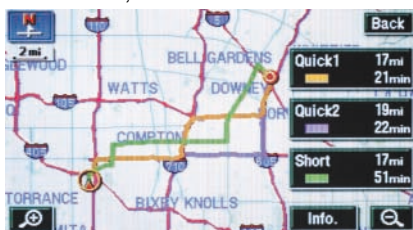


# Routing to the destination

Easily avoid congested areas and set places to stop at enroute to the destination.

## 3 routes

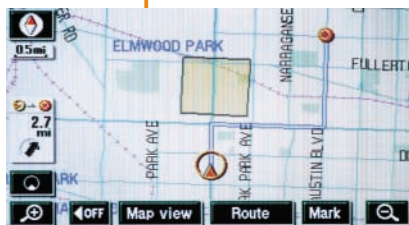
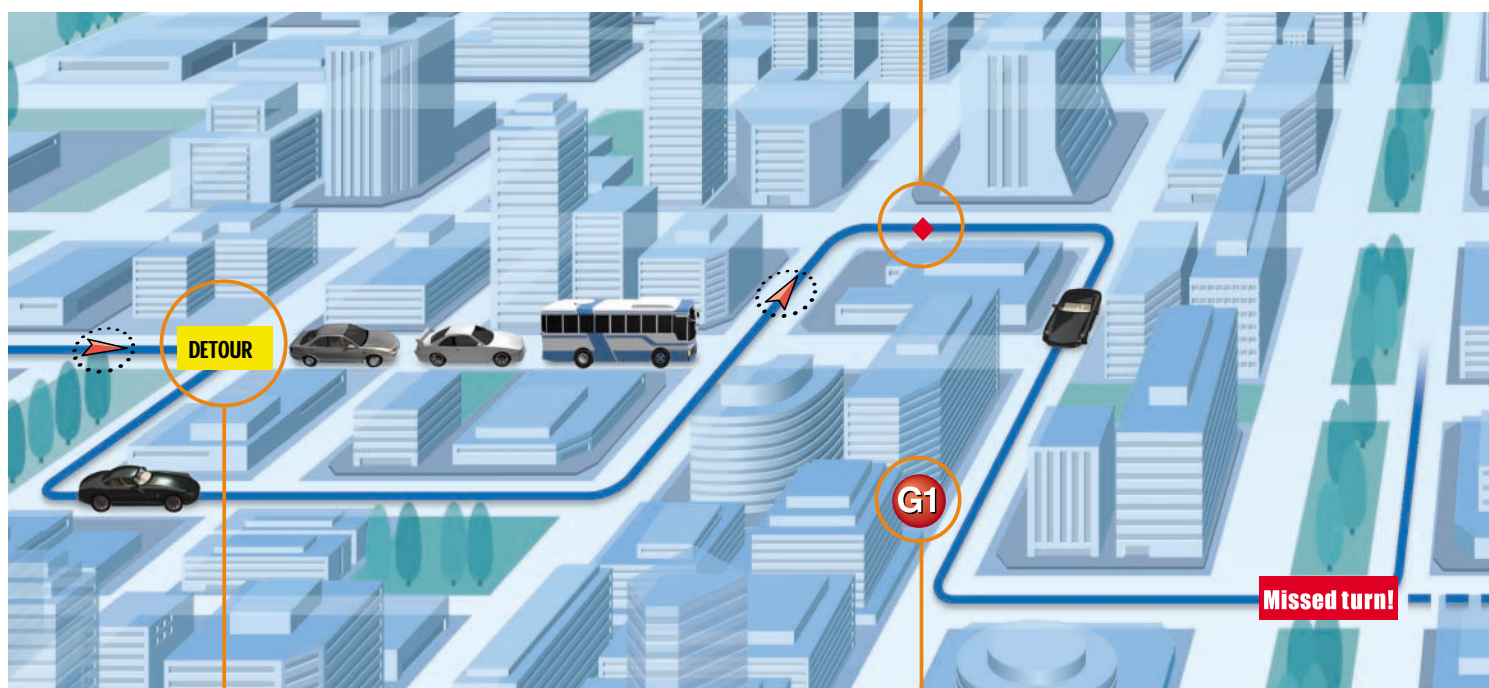
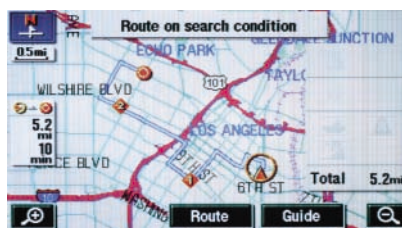
Once a destination is selected, the AVN will instantly offer Quick 1, Quick 2 and Short recommended routes to choose from.



3 routes information		
Quick1	Quick2	Short
21 min	22 min	51 min
17 miles	18 miles	17 miles
0.0 miles	0.0 miles	0.0 miles
10 miles	17 miles	0.0 miles
0.0 miles	0.0 miles	0.0 miles
0.0 miles	0.0 miles	0.0 miles

## Must travel routing

Up to 2 roads can be assigned as “must travel sections” so the AVN will always include them when setting a complete route.



## Detour input

Up to 10 areas to avoid because of chronic traffic congestion or other reasons can be input. The AVN will automatically work out the best detours that avoid the problem areas.



## Enroute stopping points

Up to 5 locations along the route to a destination can be selected to be stopping points.



## Route preview

The AVN will also provide a convenient preview of the selected route from start to destination when requested.

# Assistance whenever needed

Facilitating navigation with intelligent guidance.

## Voice announcements and guidance

Names of major intersections in the database will be announced by AVN as cues to prepare for turns, as well as announcing upcoming curves, turns and driving lanes all in good time so the driver is always well prepared. Lane guidance is also provided for making the correct turnoff from the freeway when approaching an exit. Voice guidance is multi-directional, referencing 8 compass directions so even the most complex intersections are smoothly navigated.

### Audio playing



Approaching waypoint while listening to music

### "Turn" Audio muted

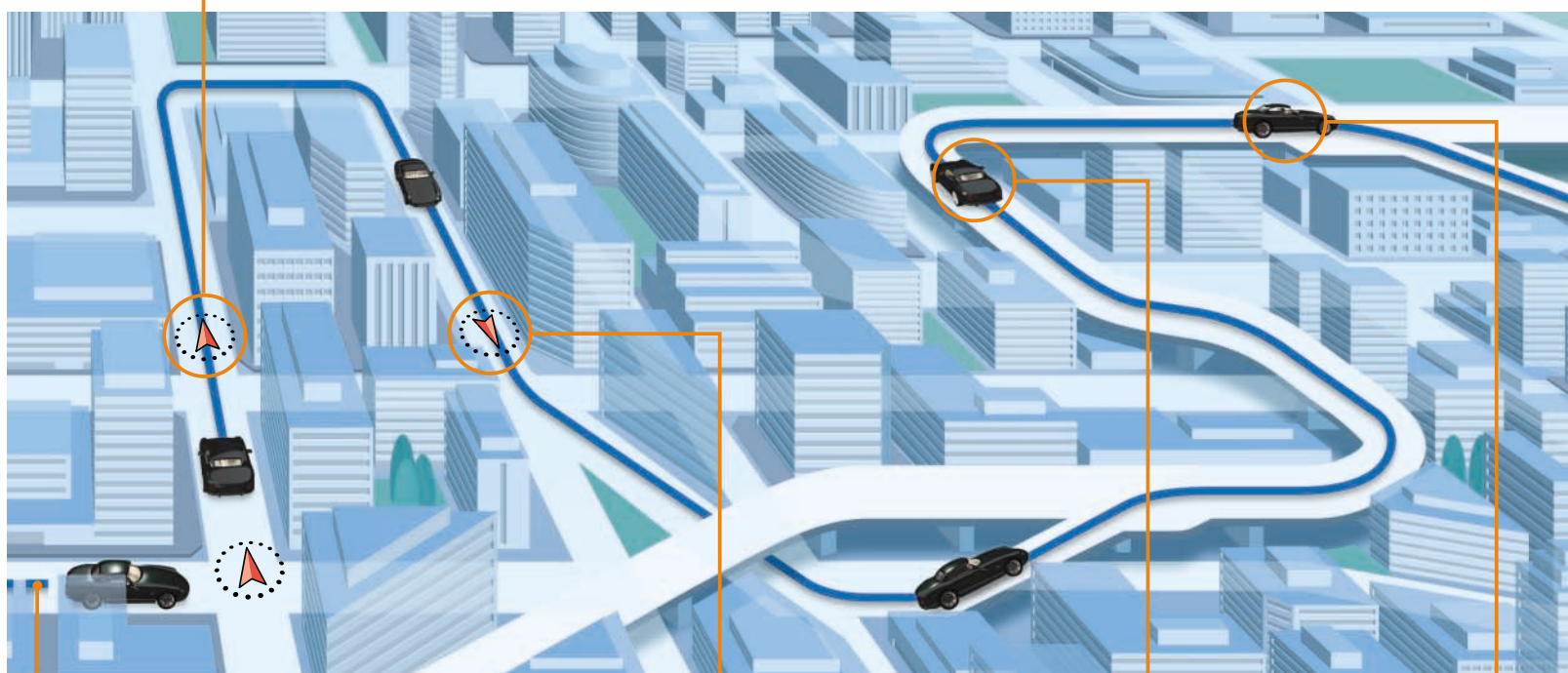
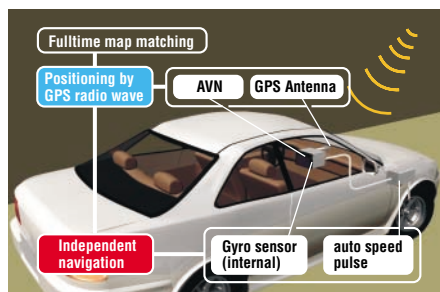


Music cuts off at the front left speaker and the navigation voice message is heard.



## Map and positional updating

The vehicle's position is continually being updated as AVN accesses the Global Positioning System.



## Auto rerouting

Diverting from a recommended route accidentally or on purpose will call up a new alternate route instantly with high-speed processing, just 5.5 sec. for a coast to coast route.



## Intersection zooming

The AVN display automatically splits as an intersection is approached where a turn is essential, showing a zoomed version with landmarks and various other cues as well as the regular display.



## Freeway interchanges (AVN5495 only)

Navigate easily through the most complex interchanges with 3D displays that include names and distances.



## Exit displays (AVN5495 only)

Getting off a freeway at the right exit has never been easier as the correct exit is displayed in 3D, with name and related information clearly displayed.



# Special display features

Enhanced user-convenience with versatile display features.

## Touch-responsive interface

Responding accurately to fingertip control, the touch-sensitive interface is extremely rugged to withstand daily use, and is treated for low reflectivity for increased visibility in different conditions.



## Landmark displays

Useful landmarks such as gas stations, ATMs and restaurants can be displayed onscreen categorized by type. Some landmarks can even be shown simultaneously.

Before



After

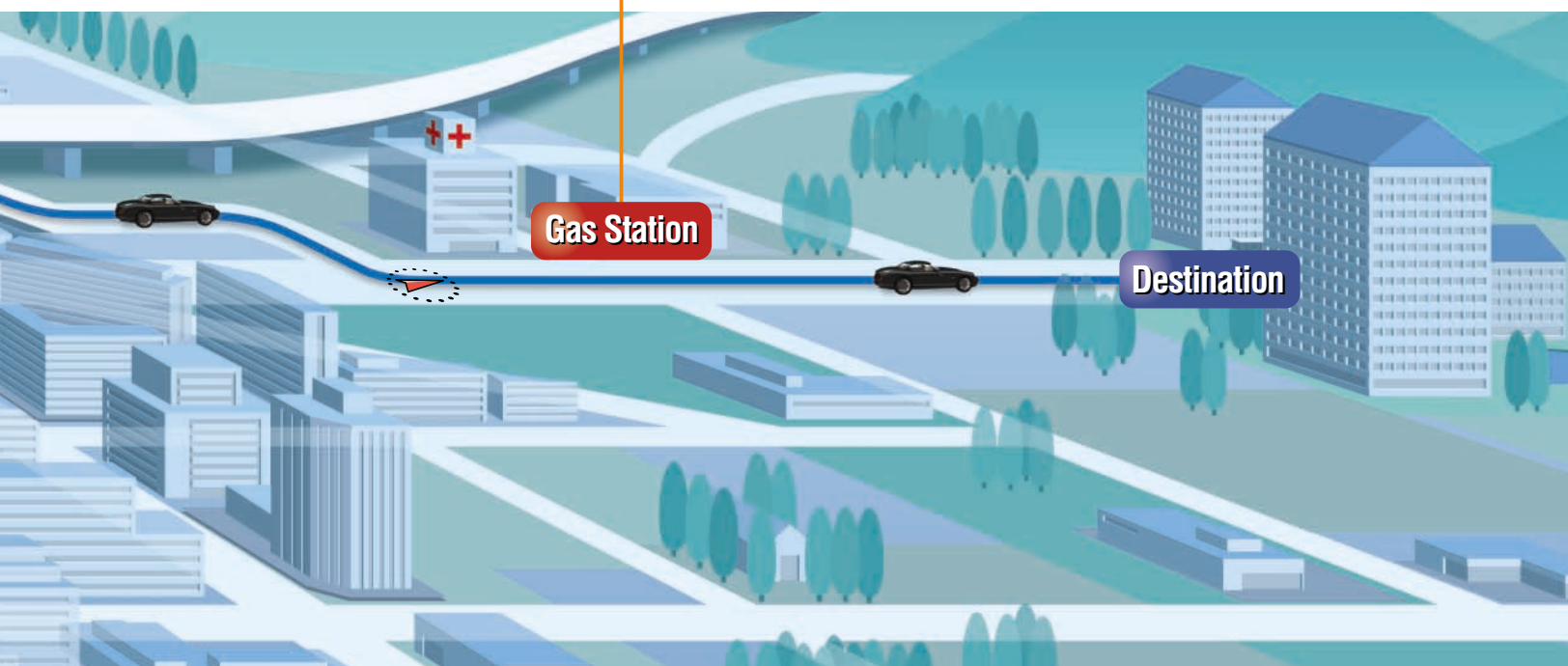
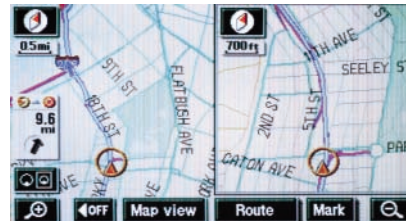


A few sample icons.



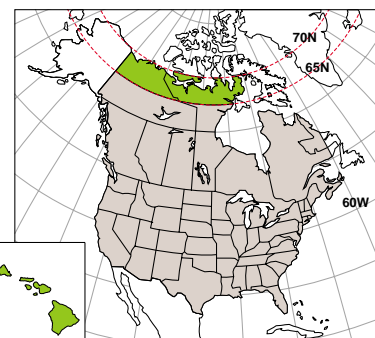
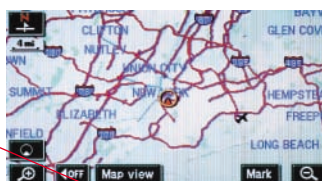
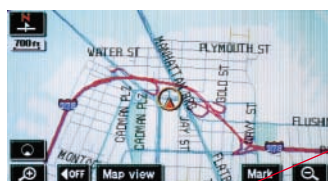
## Split screen function

This convenient function can be activated as desired to combine zoom in and out displays, maps of different scales and other combinations of various modes as desired.



## Versatile zooming

Map scale can be quickly controlled by shifting magnification values. Seamless zooming is broader, covering 150 feet to 250 miles for maximum flexibility.



## AVN Navigation Mapping Coverage

Navigation database now includes Hawaii and Canada (partial).

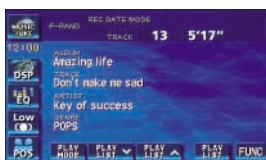
- AVN5495 area coverage (Map data compiled June 2004.)
- AVN5435 area coverage (Map data compiled December 2003.)

# High-performance audio and video features

## Music Juke AVN5495

Music Juke creates an onboard music library of approximately 3,000\* songs. Every CD inserted into the unit has its tracks automatically ripped by Music Juke and this process is repeated with each CD until the HDD's maximum storage limit has been reached. No track will be partially recorded as Music Juke picks up recording from the beginning of a song that had been interrupted, once the CD is re-inserted. When a CD track matches the track information on the HDD database, the CD title, artist name and song title are immediately displayed.

\* Song storage can be less than the representative number of song files depending on each song's bit rate and sampling frequency.



## CDDDB-enabled AVN5495

The AVN5495 incorporates the popular Gracenote CDDDB feature which contains a database of CD track information for approximately 230,000 songs so that the information displays as a track plays.

• Gracenote CDDDB is a trademark of Gracenote.



## Memory Stick-enabled AVN5495

The AVN5495 easily meets today's demands for digital file portability, being equipped with a Memory Stick slot to playback your digital music files stored on an MS.

## Circle Surround II AVN5495

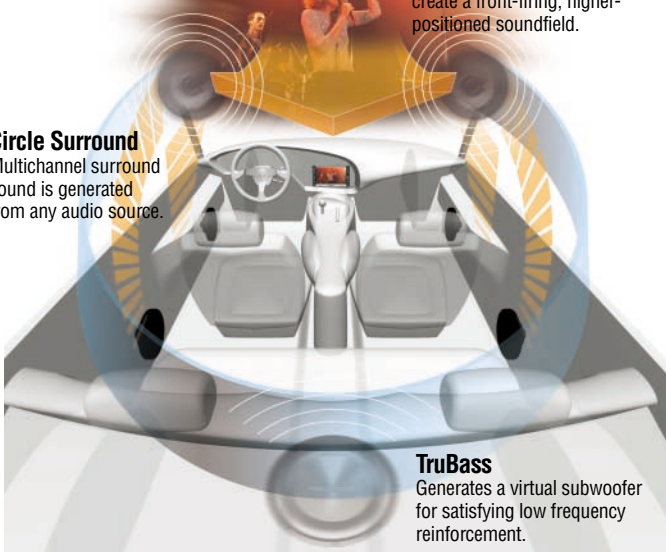
An innovative audio technology that generates multichannel sound from any audio source including CDs and MP3s to be enjoyed on a conventional 4-speaker system, Circle Surround II is an ideal for mobile environments as it includes two other advantages. Focus can be switched in so that the stereo soundfield is perceived to be higher and aimed at the listener(s) from the front as in home systems. This overcomes the problems of most in-car speakers that are positioned low and to the sides. TruBass, a technology based on psychoacoustics and scientific knowledge is especially welcome, allowing small speakers to be perceived as generating impressive bass frequencies without requiring a costly subwoofer.

### Focus

Generates virtual speakers that create a front-firing, higher-positioned soundfield.

### Circle Surround

Multichannel surround sound is generated from any audio source.



### TruBass

Generates a virtual subwoofer for satisfying low frequency reinforcement.



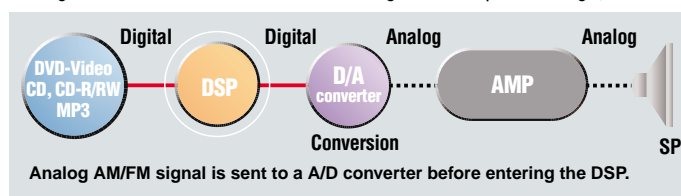
## 6.5" wide TFT display with touch control AVN5495 / 5435

An AVN unit's display is the ideal size for center console mounting and for all navigation and DVD entertainment as well. The display is touch-controlled so operation is intuitive and easy. A fingertip is all that's required to control the unit. Each fingertip push is confirmed with sound and feel. Images on the display are high resolution with outstanding clarity and viewing aspect ratio can be changed from a widescreen 16:9 to three others as needed.



## All digital circuitry AVN5495 / 5435

AVN units are designed to retain all signals in the purely digital domain which minimizes distortion, maintains signal purity and allows a high S/N ratio, delivering the best possible sonic performance. All parameters for processing such as EQ, speaker time alignment, and even gain settings are performed in the digital domain. The fewer controls the signal has to pass through, the better.







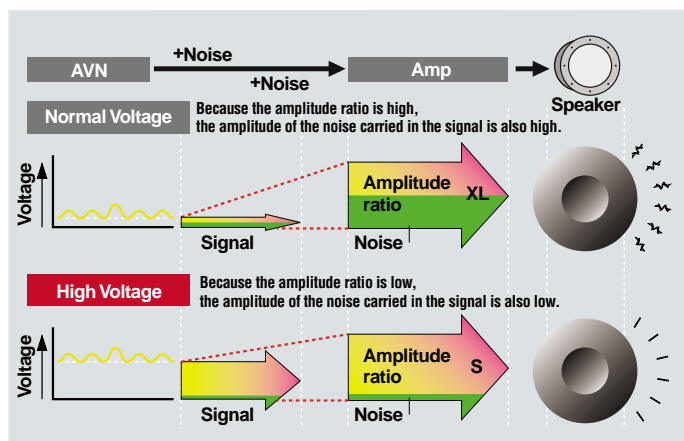
AVN5435

### High-performance 24-bit $\Delta\Sigma$ DAC AVN5495 / 5435

Just prior to the output stage, a high-performance 24-bit  $\Delta\Sigma$  digital-to-analog converter changes the digital signals into high quality analog signals to enable driving analog power amplifiers optimally.

### High voltage (5V) and low impedance output AVN5495 / 5435

A tradition from ECLIPSE's famous analog only audiophile products, an important factor in assuring maximum sound quality has been preamplifier outputs which put out a healthy voltage at low impedances so that amplification downstream sees an ideal signal at its inputs. The AVN units' preamplifier output of 5V with a low impedance of 55 $\Omega$  is just that, allowing a very high signal to noise ratio and unrestricted dynamics.



### DSP for total audio control AVN5495 / 5435

ECLIPSE uses a custom Digital Signal Processing (DSP) chip in the AVN units to efficiently perform all essential signal processing from setting volume levels to sophisticated parameter adjustment. All processing is performed digitally without incurring any added noise or distortion.

#### 5-mode Soundfield Control

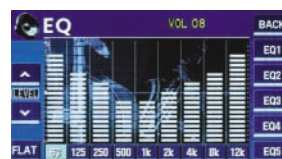
This function offers a choice of five distinctive acoustic environments to match your listening preferences, transforming the spatial characteristics of the in-car environment to something else such as a live concert, club or theater.



#### 9-band EQ

The versatile EQ function provides effective tonal contouring of the overall system response to suit user preferences.

Adjustments are easily made with the touch panel display. Once a desired EQ configuration is achieved it can also be saved in one of the five EQ memory presets, allowing different music genres to have their own preset EQ configurations that can be recalled instantly.



#### Listening Position Selector

No matter what the seated position, the position selector makes listening to music approximate an ideal position of being equidistant from the speakers. This is much more natural sounding than the conventional in-car response which has sound that's out of balance, with the listener hearing only the speakers closest to the seated position.



### Options AVN5495 / 5435

#### CD Changer-ready

Functioning as an immense mobile jukebox with storage for 8 CDs, the CH3083 is ideal for increasing music content as it is also compatible with CD-R/RW discs.



**CH3083**  
8-Disc CD Changer  
with Magazine Unit

#### Rear view camera-ready

The BEC104 optional rear camera can be connected to the AVN units to facilitate parking.

#### BEC104 Rear View Camera



#### Remote control-ready

Optional new ergonomic design remote enhances operation.



**RMC105**  
Wireless Remote

#### Rear monitor-ready

Allows rear passengers to enjoy movies.



**HDR105**  
**HD Radio Tuner Unit**

Dimensions: 6-19/64" × 1-7/16" × 6-29/32"  
(W × H × D) 160 × 36.5 × 175mm



**SIR-ECL 1**  
**ECLIPSE COMPATIBLE SIRIUS SATELLITE RADIO TUNER**

Dimensions: 4-9/64" × 1-3/8" × 4-59/64"  
(W × H × D) 105 × 35 × 125mm



**Specifications**

\* Meets CEA2006 guidelines

14.4V Power Supply	AVN5495	AVN5435
Max. Power Output	50W × 4	
RMS Power Output*	15W × 4 (1kHz, 1%, 4Ω)	
Display	6.5" wide (16:9), low-glare panel	
Display Resolution	280,800 dots (400 × 234 × 3)	
Screen Aspect Ratio	4 types	
FM Frequency Range	87.75 — 107.9MHz (200kHz step)	
Usable Sensitivity	12dBf	
AM Frequency Range	530 — 1710kHz (10kHz step)	
Usable Sensitivity	22μV	
CD Frequency Response	20 — 20,000Hz, ±1dB	
Total Harmonic Distortion	0.01% (0dB, 1kHz)	
Graphic Equalizer	63Hz — 12kHz ±10dB	
Dimensions (W × H × D)	7" × 4" × 6-1/2" (180 × 100 × 165mm)	
Weight (approx.)	3.6kg	3.7kg

**Notes and Precautions**

**Product safety notice**

- To ensure the safe operation of ECLIPSE products, please read the owner's manuals carefully prior to using.
- ECLIPSE is not responsible for any accident or damage due to improper installation, connections or products modified in any way.

**Warning**

- All products are intended for DC 12-Volt operation in negative grounded vehicles only. Never use them in 24-Volt vehicles such as heavy trucks or diesel cars with cold-region specification, aircraft or marine environments unless specifically rated to handle these conditions.
- Do not adjust controls while driving. To adjust the controls, stop the car in a safe location.


**Caution**

- Installation of products requires experience and knowledge. Ask your ECLIPSE retailer for proper installation.
- ECLIPSE cannot guarantee that every product it manufactures will be able to be installed in any vehicle model or make. In this event, please consult your ECLIPSE retailer.
- In some cases due to installation-related considerations, additional connecting cables may need to be purchased for an ECLIPSE product.
- The rear view camera is a parking aid. It must be used only to supplement your vehicle's side view and rearview mirrors. It is not a substitute for mirrors and careful driving.

**General**

- Product design and specifications are subject to change without prior notice or obligation as ECLIPSE reserves the right to constantly seek to improve its products.
- Due to characteristics and properties of various photography and printing processes, the color(s) of the actual product may slightly differ from those shown on these pages.
- Some screen images shown are simulated.

**Licensing and Trademarks**

- Circle Surround II and the SRS logo are trademarks or registered trademarks of SRS Labs, Inc.
- Dolby and the double D symbol  are trademarks of Dolby Laboratories and the Dolby Laboratories Licensing Corporation.

- HD Radio is a trademark of iBiquity Digital Corporation.
- SIRIUS SATELLITE RADIO is a trademark of SIRIUS Satellite Radio Inc.
- Memory Stick is a registered trademark of Sony Corp.
- Magic Gate is a registered trademark of Sony Corp.
- Gracenote CDDB is a trademark of Gracenote.

**Others**

- Some recent audio discs may resemble conventional music CDs but are technically not Compact Discs (CD Red Book format) because of the copy protection technology employed. ECLIPSE cannot guarantee operation and performance if these discs are used.
- CD-R/RW playback quality may be affected by disc surface condition and disc format initialization process.
- DVD-R/RW discs may not operate perfectly on unit due to disc imperfections.
- CD-R/RW disc performance may suffer if a disc exhibits excessive wear, dirt and scratching.
- ATRAC3 is an efficient compression codec for digital music files, allowing files to take up just 1/10 their uncompressed size without degrading audio quality.
- Recording/playback of song data is only possible on Magic Gate-compatible memory stick devices.
- Memory Sticks up to 128MB can be used. Initialization must be executed with Windows 2000 or later.
- ECLIPSE is not responsible for any data loss on a Memory Stick or HDD due to unit failure or malfunction.

**Operation notes**

- DVD-Video compatible units are only compatible with NTSC standards and Region-1 DVD-Video discs.
- DVD-Video is disabled when the vehicle is in motion. Inserting a DVD-Video will only allow the audio to be heard.
- The Global Positioning System or GPS was developed in the United States. It is a system that pinpoints a current position making use precisely of radio waves transmitted to earth from 3 or 4 GPS satellites.

- GPS data can sometimes be unavailable due to circumstances such as:
  - Interrupted GPS satellite radio waves because of geographical interference factors such as buildings, tunnels, elevated roads and similar conditions.
  - Unsatisfactory reception due to objects being on or in the near vicinity of the GPS antenna.
  - Interrupted transmission service may sometimes result from periodic maintenance or upgrades being performed by the US-based GPS tracking control system.
  - Transmission can be interrupted or degraded when a digital cellular operating on a 1.5GHz frequency rate is being used in the vicinity of the GPS-enabled unit.

**AVN-specific**

- AVN5495 map data compiled as of June 2004.
- AVN5435 map data compiled as of December 2003.
- CDDB database compiled as of November end 2004.
- Do not follow a navigation route if it could place you in an illegal, unsafe, or dangerous situation.
- Navigation controls cannot be operated in a moving vehicle.
- Please do keep in mind however that since emergency service providers sometimes change locations and services, a phone call should be made first to verify current availability before proceeding to the destination.
- Do not watch moving images on a product display while driving as doing so may lead to an accident resulting in serious injury or death.

**FUJITSU TEN LIMITED**

Contact: FUJITSU TEN CORP. OF AMERICA  
19600 So. Vermont Avenue, Torrance, CA 90502  
Call: 1-800-55-ECLIPSE (Dealer Locator)  
1-800-233-2216 (Information)

**www.eclipse-web.com**

